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ABSTRACT

This paper identifies the bases and rationale for the concept of cooperative learning; describes the dynamics of the cooperative learning approach; and proposes methods that college faculty can use to enhance student motivation and learning. Cooperative learning is defined and is reported to have positive effects on student achievement, human relations skills, trust among students, and emotional involvement in and commitment to learning. Disadvantages, such as the lack of short-term extrinsic rewards for students who rely on such reinforcement, are also noted. Three types of cooperative learning are then detailed with examples: (1) group investigation--in which students in small groups work through six steps in researching a topic and preparing a report; (2) reiterative problem-based learning--in which student groups identify a problem, engage in independent study, assess their inquiry strategy, and iterate the process; and (3) co-op/co-op--in which students work through 10 steps involving both individual and group learning and presentations. Includes seven references. (DB)

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IMPLEMENTING COOPERATIVE LEARNING METHODS

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With increasing interest and attention, faculty are using more instructional methods and techniques which demand student collaboration and/or cooperation. That is, students are required to interact with other students, with administrators, with others, in planned, learning tasks.

In a recent article in College Teaching, Sheridan, Byrne, and Quina (1989, 49), reported on a number of applications of the concept of collaborative learning. Collaborative learning was identified as a pedagogical style which recognizes the social character of learning and emphasizes cooperative efforts among students, faculty, and administrators. Related to collaborative learning is cooperative learning. Sometimes the terms are used interchangably, however, they are two different concepts that share components of a broad theory base.

The purposes of this article are to: identify some of the bases and rationale for the concept of cooperative learning; describe the dynamics of the methods; and, most importantly, to propose some methods college faculty may use to enhance the motivation and learning of students.

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Why the Interest in Cooperative Learning?

One stimulus for the interest has been the influence of Astin (1985), who proposed a theory of student involvement. His review of the research on learning and motivation (and retention) suggests that learning is greatest when the learning environment is structured to engage active participation by students. Faculty are encouraged to focus less on what they do and more upon what the student does.

Another influence has been that of Glasser (1986), who, from a behavioral/motivational standpoint, suggests that anytime we can introduce power, belonging, or freedom into any situation (not limited to instruction), participants typically find the situation much more stimulating and interesting. His work suggests that as teachers we need to incorporate in our instruction methods and techniques, activities which give full recognition to the learned drives for mastery, power, achievement and affiliation. Cooperative and collaborative instruction methods respond well to these drives.

Other significant influences are the changing expectations in the work environment for which most of our students are preparing to enter. Basically, people are being required to work more in collaboration with others in work groups, formal and ad hoc teams, and the like. Many organizations have made substantial changes in the ways in which they manage their people. Often, they want to blur the distinctions between management and workers, and, they want employees to know more, share more , and do more (Lawler,1986). These expectations require an integration of individual skills into the group interaction with participants learning about: each other's

abilities; what each member has to contribute to the effort; how they can help one another perform better; and, how they can best take advantage of one another's experience.

Reich (1989) suggests that faculty need to place greater emphasis on interactive communication linked to group definition of and solutions of problems to displace emphasis on quiet and solitary performance of specialized tasks. Further, students should learn to articulate, clarify, and then learn to re-state for one another how they determine questions and find answers.

Cooperative Learning: The Basics

Slavin (1983) defines cooperative learning approaches as techniques that use cooperative task structures in which students spend much of their class time working in 4 - 6 member groups; also, using cooperative incentive structures in which students earn recognition, rewards, or grades based on the academic performance of their groups. The approaches and methods have been experimentally tested and have been found to have positive effects on student achievement, human relations, skills, trust among students, and emotional involvement in and commitment to learning.

In an action sense, responsibility for learning is placed with the learners; activities are learner - centered; the instructor behaves as a facilitator and is not the focal point of all activities; student groups (teams) are largely self-determining, autonomous units; contributions of all participants are encouraged. In brief, the

students are empowered to attain mastery and competence in a self-directing, autonomous way with some guidance and little control.

There are some disadvantages in using cooperative learning approaches, such as: the lack of short-term extrinsic rewards for students who rely on such reinforcement; the diffusion of responsibility in groups/teams; the effort and time required to manage the instructional activities and create materials; and, the inability of some students and/or instructors to effectively manage group processes and dynamics.

There is a growing body of research that is highly supportive of cooperative learning approaches. Slavin (1985), indicates that these approaches are simple to apply and use successfully. He reminds us that approximately 70 to 80 per cent of today's jobs require complex coordination of ideas and efforts and it is difficult to point to a job today that does not require cooperative interaction abilities. Normally, students are not required to work cooperatively together in learning activities, however, one is expected to do this in the workplace.

Some Examples of Methods

The remainder of this article contains three examples of cooperative learning approaches. The three approaches are ones which

may be used successfully with college students. These examples are ones regarded as particularly useful in learning situations involving conceptual material and/or information that requires analysis or integration. Other approaches are useful for instruction in particular skills areas, and for when large amounts of information, details, and the like are to be learned by students.

I have used two of these approaches, Co-Op/Co-Op, and Group Investigation, and have some evaluative information from students (essays) which indicate student preference for such approaches as compared to more traditional methods (case analyses, lecture/discussion, etc.). Students report much personal satisfaction in participating in these approaches in terms of personal responsibility for action, learning and achievement, variety in the learning environment, getting to know their classmates, and,in terms of the opportunity for greater networking with class members. This last point is most important for the student who may be in career/job transition, or, who wishes to learn more about different jobs/careers.

Example 1 Group Investigation *

This approach consists of six consecutive stages or parts, with faculty member as guide/consultant.

1. Topics and Teams - Depending on course content, topics for study are identified and students are placed in teams of their choice or instructor choice, etc. Choices can be negotiated. (Example topic: Study the "white" appliance industry).

2. Planning - Team members decide what sub-topics are to be investigated as well as the goals of their study and how the topics are to be studied.

3. Action - Team members gather information, review it, analyze/evaluate it, and reach some conclusions.

4. Final Report Preparation - Each team must prepare a summary activity. It may be in the form of a report, a briefing, etc., for the entire class. The teams, via representatives, coordinate this activity.

5.Presentation - Each team, using whatever means, methods, materials it deems desirable presents its findings to the class.

6. Assessment/Evaluation - The purposes, methods, means of evaluation can be negotiated collaboratively among the students and the

instructor. Obviously, this takes place when the entire process is outlined in the beginning. The aspect of deciding how the work is to be evaluated usually is a tremendous learning experience in itself. Cognitive and affective experiences can be examined.

* for more information, see Sharan, S. and Hertz-Lazarowitz, R.A. "A Group-Investigation Method of Cooperative Learning in the Classroom." In S. Sharan, et al. (Eds.) Cooperation in Education, Provo, Utah: Brigham Young University Press, 1980.

Example 2 Reiterative Problem-Based Learning (as modified) *

This approach consists of six steps.

1. Teams - The instructor forms the class members into teams.

2. Problem - A poorly-defined problem is presented to the students.(Example: AIDS patients should be completely segregated from the rest of society.) Students in teams work to define what they know about the problem, what questions they have, what information they require and its possible sources. The teams are expected to place in writing: a complete statement of the problem, a strategy for inquiry, the learning resources they expect to use.

3. Self-Directed Study - this is self-explanatory.

4. Assessment - Each team meets to discuss and critique the inquiry strategy, the yield of various resources, etc.

5. Iteration - Steps one through four are repeated.

6. Report - The team members contribute to prepare a final report to the instructor. Within groups, individual reports/contributions may also be assigned and graded by members and instructor.

* for more information, see Barrows, H. How to Design a Problem-Based Curriculum for the Preclinical Years. New York: Springer Publishing Co., 1985.

Example 3 Co-Op/ Co-Op *

This approach consists of ten steps.

1. Introduction - Initial class discussion regarding the topics, concepts, etc., of attention (Example of topic: Performance appraisal and its relationship to training).

2. Teams Formation - Student teams are identified (4 to 6 members) with as much heterogeniety as possible.

3. Team Building - The instructor may want to use some brief exercises and games, etc., to have the teams members get used to working as a group/unit. Depending on the maturity, etc., of the student group, this step may not be necessary.

4. Learning Unit - The overall learning unit for the class is identified and individual teams are identified with one aspect of the overall unit. One team's work will complement the work of the other teams.

5. Sub-Topics - Within each team, sub or mini-topics are identified by the team members and each team member is to study/learn about his/her topic so as to educate the team members.

6. Individual Work - team members spend time in preparation of their sub-topic work. One of the products of this activity must be a written report.

7. Individual Presentation - Each student does a presentation of his/her work for the team members. All are expected to do this. Student creativity is encouraged. This is a within-team activity. It should be graded by the members and/or the instructor.

8. Team Preparation - Following the individual presentations and discussion, the team prepares a presentation to make to the rest of the class regarding what has been learned.

9. Team Presentations - The team presentations are conducted. Here it is desirable to invite creativity on the part of the presenters. It is usually wise to reduce the amount of "lecture-telling" and have the presenters make use of panels, interactive discussion with whole class, role-play, etc.

10 Evaluation and Grading - The criteria should be established in the beginning and can be discussed by the instructor and the students. Both the students and the instructor can evaluate: sub-topic presentations; team presentations; and, the instructor should grade the sub-topic paper/project prepared by each of the team members.

* for more information see, Kagan, S. "Co-Op,Co-Op: A Flexible Cooperative Learning Technique" as Chapter 16, in Slavin, R.L., et al. (Eds.) Learning to Cooperate, Cooperating to Learn. New York: Plenum Press, 1985.

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